

REMARKS

Claims 8-18 stand rejected under 35 USC 103 over Oshima in view of Heer et al. Claims 8 and 16 have been amended to specify that the cargo space accommodates trucks and other wheeled cargo. Support for this limitation can be found at page 5, line 9, of the specification.

The examiner asserts that it would have been obvious to one skilled in the art to use the propulsion and steering system disclosed by Oshima on a cargo ship having an aft cargo space generally as taught by Heer et al. Applicant notes for the record that the test applied by the examiner (obvious to one skilled in the art) is not the test prescribed in 35 USC 103, which provides that a patent may not be obtained if the subject matter as a whole would have been obvious to a person having ordinary skill in the art. Applicant will assume that the examiner intended to apply the statutory test and that omission of "ordinary" is a keyboarding error.

Further, the nature of the rejection is somewhat unclear. Thus, the rejection is stated as being over Oshima in view of Heer et al, which implies that the examiner considers it obvious to apply certain features of the ship disclosed by Heer et al to the ship disclosed by Oshima and arrive at the present invention, but from the explanation of the rejection, it appears that the premise is that it would have been obvious to modify the ship of Heer et al in view of certain features disclosed by Oshima. If the examiner maintains the rejection, applicant respectfully requests that the examiner should clarify whether the rejection is based on Oshima in view of Heer et al or on Heer et al in view of Oshima.

The examiner appears to take the position that it would have been obvious to a person of ordinary skill to apply the propulsion and steering arrangements of Oshima to the ship disclosed by Heer et al. Thus, in support of the rejection the examiner states

The use of steerable units to propel a ship as in Heer et al involves the use of complex mounting means that permit the units to rotate for steering while providing sufficient support to transfer a forward propelling force to the ship. For these reasons the propulsion and steering arrangements as disclosed by Oshima would have been desirable on a cargo ship of the type disclosed by Heer et al.

There appears to be a logical gap in the examiner's argument, since it does not connect the complex mounting means of Heer et al to the propulsion and steering arrangement of Oshima. Applicant supposes that the examiner intended to argue that the propulsion and steering arrangements of Oshima would have commended themselves to a person of ordinary skill in the art because the mounting means for the steering propeller units of Oshima were less complex than the mounting means of Heer et al. However, this argument would be based on speculation because Oshima does not disclose the mounting means for the steering propellers.

The examiner explains in point 10 on pages 4 and 5 of the Office Action that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. It is important, however, that this judgment should not use the applicant's disclosure as a basis for selecting features from the prior art and formulating the arguments that support combination of those features. It is possible to avoid improper reconstruction of applicant's claimed subject matter by properly identifying the problem that the applicant set out to overcome. In this case, the problem faced by the inventors relates to the cargo deck and cargo space of a RORO vessel provided with steering propulsion devices that, because of their size, are partly located above the cargo deck and restrict access to the cargo space. The inventors' goal was to eliminate the obstructions in the cargo space due to the steering propulsion devices. However, the total power output of the propulsion means must not be reduced significantly, since this could render the water craft uncompetitive as a cargo vessel.

It will be understood that, in general, the size of a machine, such as a steering propulsion device, depends on the power output of the machine. Thus, generally, a machine having a higher power output will be larger than a machine having a smaller power output. If a cargo vessel is equipped with two steering propulsion devices as the sole source of power for propelling the ship, the steering propulsion devices will be much larger than in the case of a similar ship that is also equipped with a non-steering main propulsion means that provides at least half the power required for propulsion of the vessel.

Heer et al discloses that the problem of limited access to the cargo space of a RORO vessel with steering propulsion devices may be solved by configuring the steering propulsion devices so that the upper part is lower and flatter (and wider) than has hitherto been conventional. By making the upper part of the propulsion devices lower, flatter and wider, the steering propulsion devices can be accommodated beneath the cargo deck without sacrificing power output.

The inventors' goal, therefore, was to provide a cargo space of similar configuration to that shown by Heer et al. However, the inventors took a different approach from Heer et al to achieve this goal. The inventors recognized that by using a main propulsion means (as defined in claim 8) to supply at least 50% of the propulsion power for the water craft, steering propulsion devices having a smaller power output (and smaller size) may be employed. Heer et al does not disclose or suggest using a main propulsion means that supplies more than 50% of the propulsion power, as required by the present invention, so that the propulsion steering devices may be of smaller power output (and smaller size).

The examiner improperly takes Heer et al as the starting point of the invention, and defines the problem not in terms of obtaining an unobstructed cargo space but of modifying the propulsion system disclosed by Heer et al by reducing the complexity of the mounting means without impairing the support

given to the steering propulsion devices. However, the record does not show that complexity of the mounting means or inadequate support for the steering propulsion device is a disadvantage of the propulsion system shown by Heer et al.

In point 4 of the Office Action mailed December 27, 2005, the examiner asserts that the main propulsion unit of Oshima produces a high output, which is desirable in a cargo ship, while the steering units provide a high degree of maneuverability, which is desirable in a cargo ship approaching a harbor. Applicant submits that the examiner has formulated these assertions based purely on a desire to show that it would be desirable to modify the propulsion system of the ship shown by Heer et al by employing a main propulsion device as disclosed by Oshima. Applicant submits that this is not the proper approach, and that the prior art does not show that either power output or maneuverability is a disadvantage of the propulsion system shown by Heer et al.

Any invention that is defined as a combination of known elements (steering propulsion devices and a main propulsion means) can be broken down into its elements and it is then possible to explain a reason or motivation for including each element in the combination. In this case, the examiner explains that use of steerable units to propel a ship as in Heer et al involves the use of complex mounting means that permit the units to rotate for steering while providing sufficient support to transfer a forward propelling force to the ship, and presumably reasons that since the main propeller 1 of Oshima is capable of producing a high propulsion output, it would have been desirable to use the propulsion and steering arrangement disclosed by Oshima in a cargo ship of the type disclosed by Heer et al because it would reduce the complexity, and hence the cost, of the mounting means. However, Oshima does not disclose or suggest that an advantage of using a propulsion arrangement including a main propeller and two steering propellers is that the mounting means for the steering propellers is simpler and less expensive

compared to a propulsion arrangement of similar output power but merely having two steering propellers. Oshima discloses that the propulsion arrangement sharply decreases generation of underwater noise, performs adequate steering according to sailing state, enables use of the same propeller for steering and propulsion, and eliminates influence of water current in turn-type propeller. As noted above, the mounting means are not even shown in Oshima.

Moreover, the examiner's rejection, and reasoning in support thereof, do not address the final limitation of claim 8, according to which the output of the steering propulsion devices is less than half of the sum of the output of the main propulsion means and the steering propulsion devices. The examiner has not alluded to this limitation and Oshima et al does not disclose or suggest this feature.

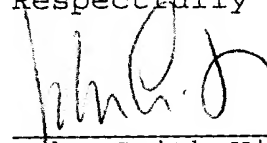
In point 8 on page 4 of the Office Action, the examiner asserts that the basic teaching of Oshima is to provide a marine vessel with a main propulsion drive and with auxiliary steering units mounted on the sides with respect to the main engine. Applicant submits that this is not what Oshima teaches. A patent publication does not teach in a vacuum. It teaches a solution to a problem of the prior art. In the case of Oshima, the problem is of underwater noise in a research vessel and the solution is to employ steering propulsion devices to provide a reduction of underwater noise during maneuvering of the ship.

In point 8 the examiner also asserts that the fact that Oshima does not disclose a cargo space in the vessel does not mean that the vessel does not have a cargo space. This assertion raises two issues. First, applicant submits that the evaluation of patentability is concerned with what the prior art discloses, not with what the examiner speculates might be present in an implementation of the disclosure. The examiner might argue that it would have been obvious to provide the ship of Oshima with a cargo space, but at this point the examiner has not done so. Oshima does not disclose a cargo space and accordingly Mr. Hamberg's statement that the ship shown by Oshima does not have

any cargo space at the aft part is accurate. The second issue is that the invention is not concerned simply with a water craft in which the hull defines a cargo space since the claims, as now amended, are limited to a cargo space for accommodating trucks and other wheeled cargo. There is certainly no disclosure or suggestion in the prior art that the ship of Oshima has a cargo space suitable for accommodating trucks and other wheeled cargo.

The examiner's arguments in support of the rejection are identical to those included in the Action mailed December 27, 2005. Consequently, the arguments do not address the limitations of claim 18. For this reason alone, the examiner has not presented a *prima facie* case of obviousness of claim 18.

Respectfully submitted,



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